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Beltz

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[45] **Date of Patent: Aug. 17, 1999**

[54] **ADJUSTABLE FIRE ARM SUPPORT**

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[73] Assignee: **B-5, Inc.**, Wichita, Kans.

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[51] **Int. Cl.**[6] **F41A 23/06**

[52] **U.S. Cl.** **42/94**

[58] **Field of Search** 42/94

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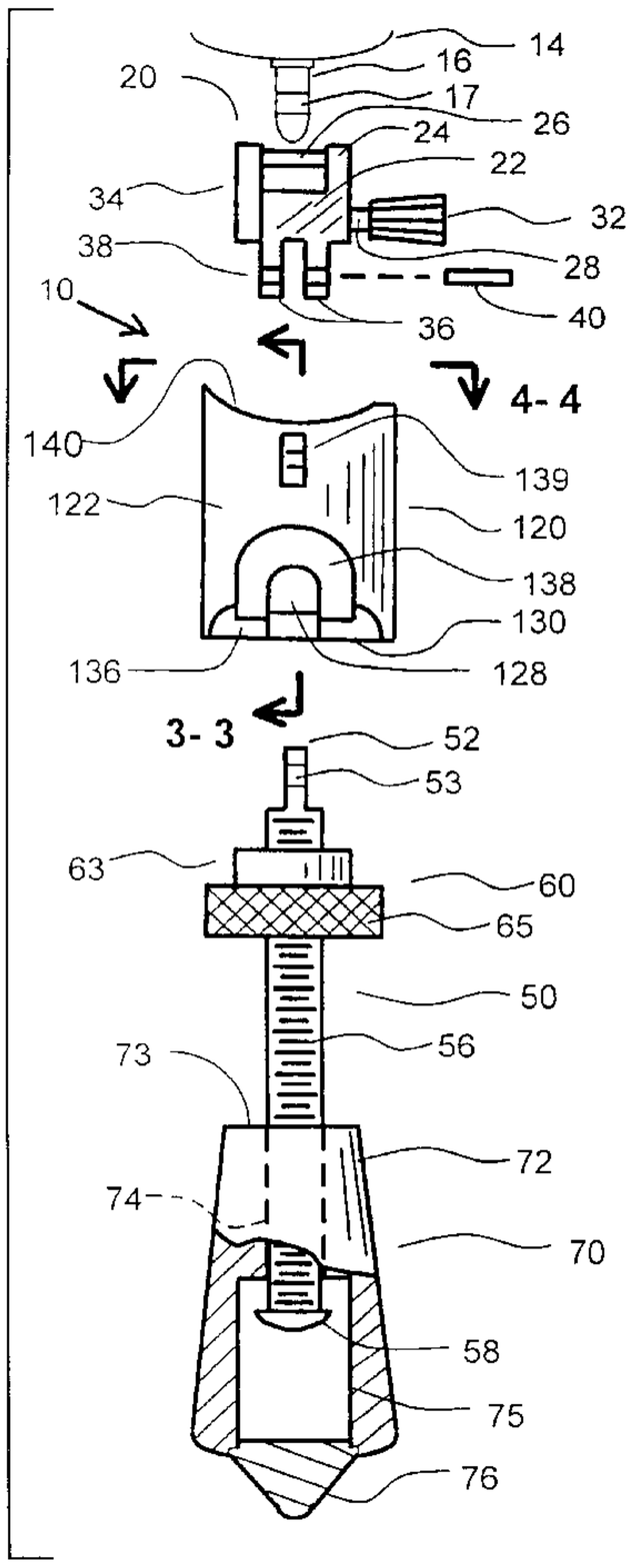
[57] **ABSTRACT**

The adjustable firearm support of present invention works in combination with a firearm stock having a sling stud mounted to its underside near its butt end. This firearm support includes four basic parts; namely, a support rod, a base member, a position sleeve and a support leg. The support rod has a pivotally mounted clasp for engaging the sling stud and a threaded outer surface for receiving the position sleeve and the support leg which both have threaded central bores. The base member has an upper cradle surface for fitting up against the firearm stock, a central bore for receiving the support rod and a side slot for allowing the support rod to pivot in relation to its clasp into a horizontal folded position. An assembled adjustable firearm support can be attached to a firearm stock by engaging the clasp with the sling stud and tightening the position sleeve up against base member. When the support leg of the attached adjustable firearm support is placed on a stable horizontal surface, the support leg can be rotated about its threads to move it up and down in relation to the support rod to finely adjust the elevation of the firearm.

14 Claims, 4 Drawing Sheets



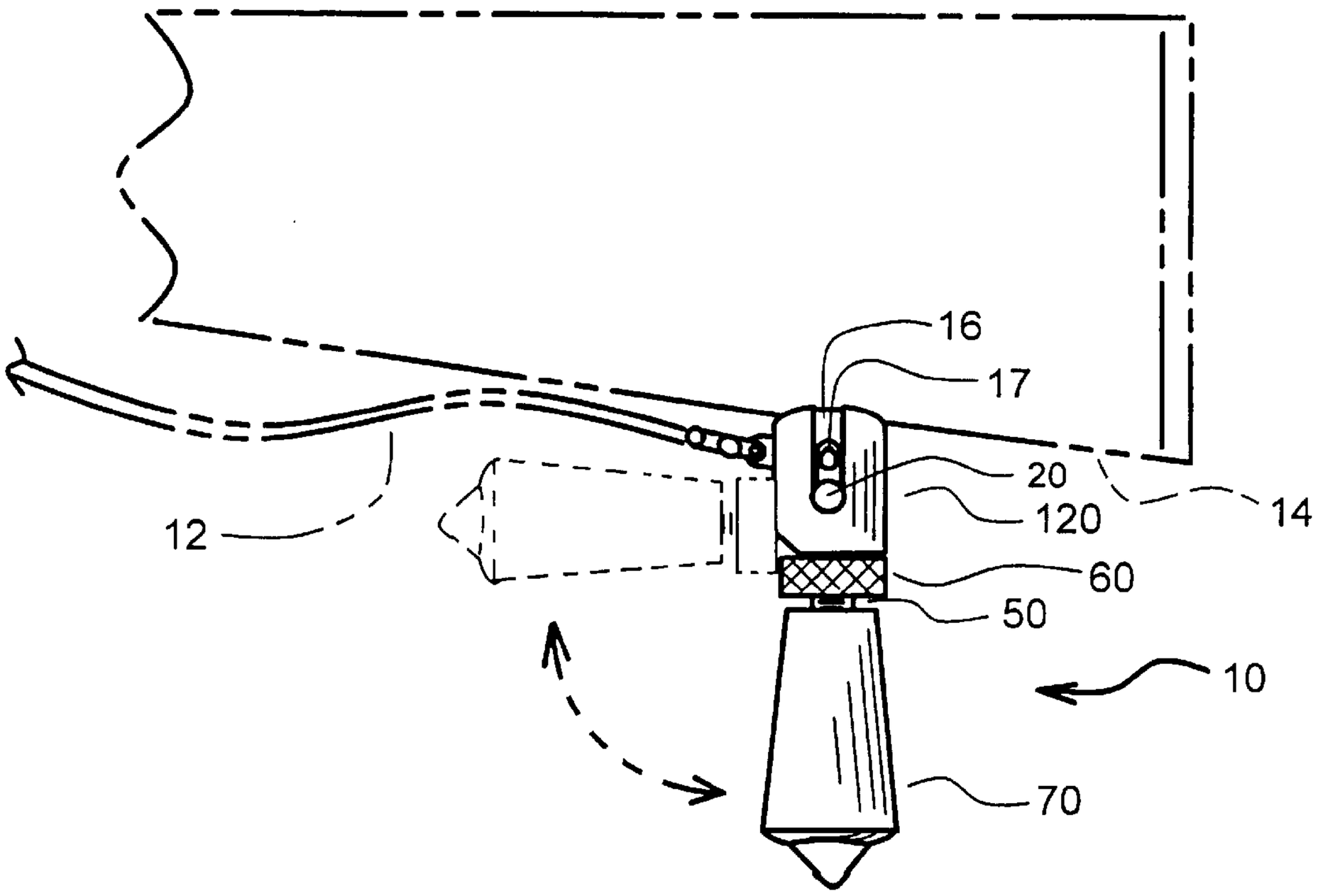


FIG.1

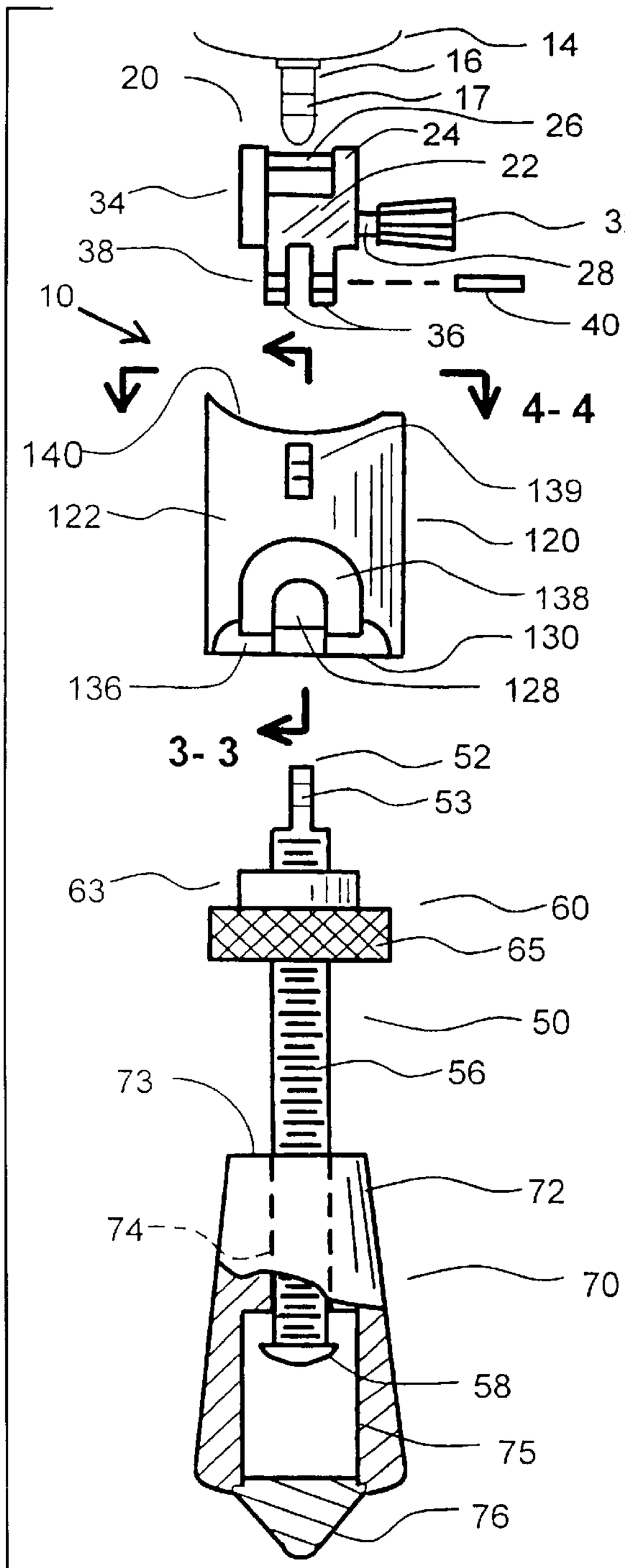


FIG.2

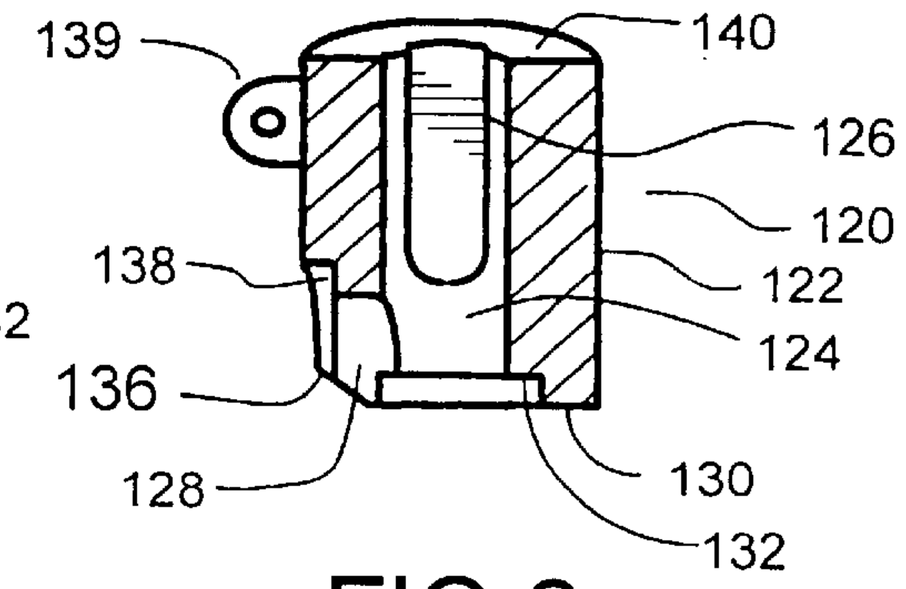


FIG.3

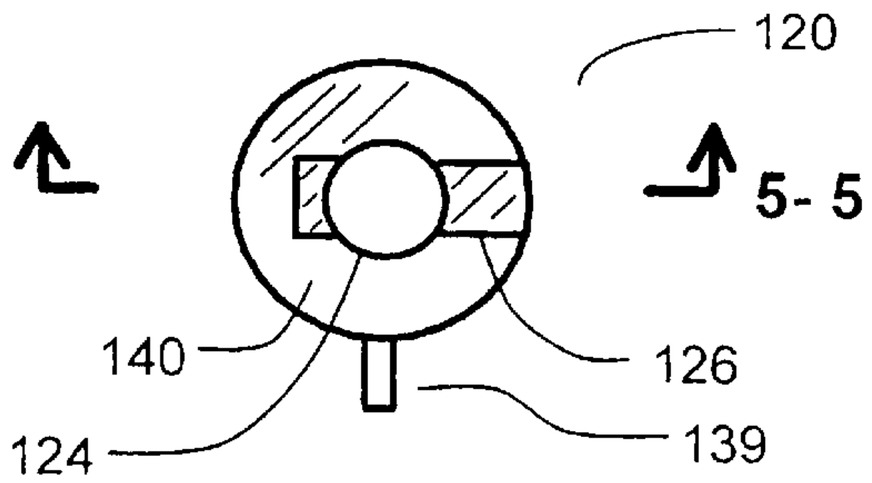


FIG.4

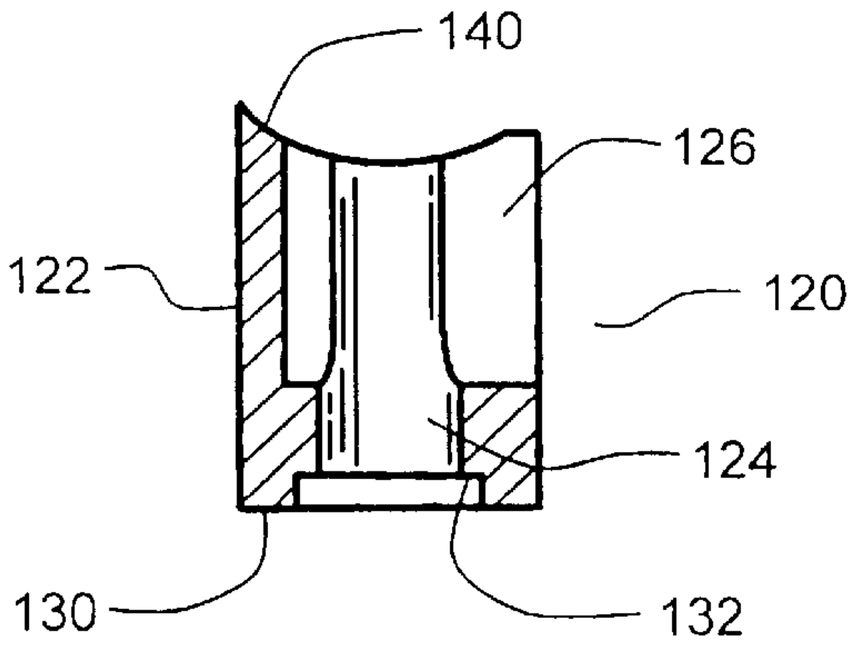
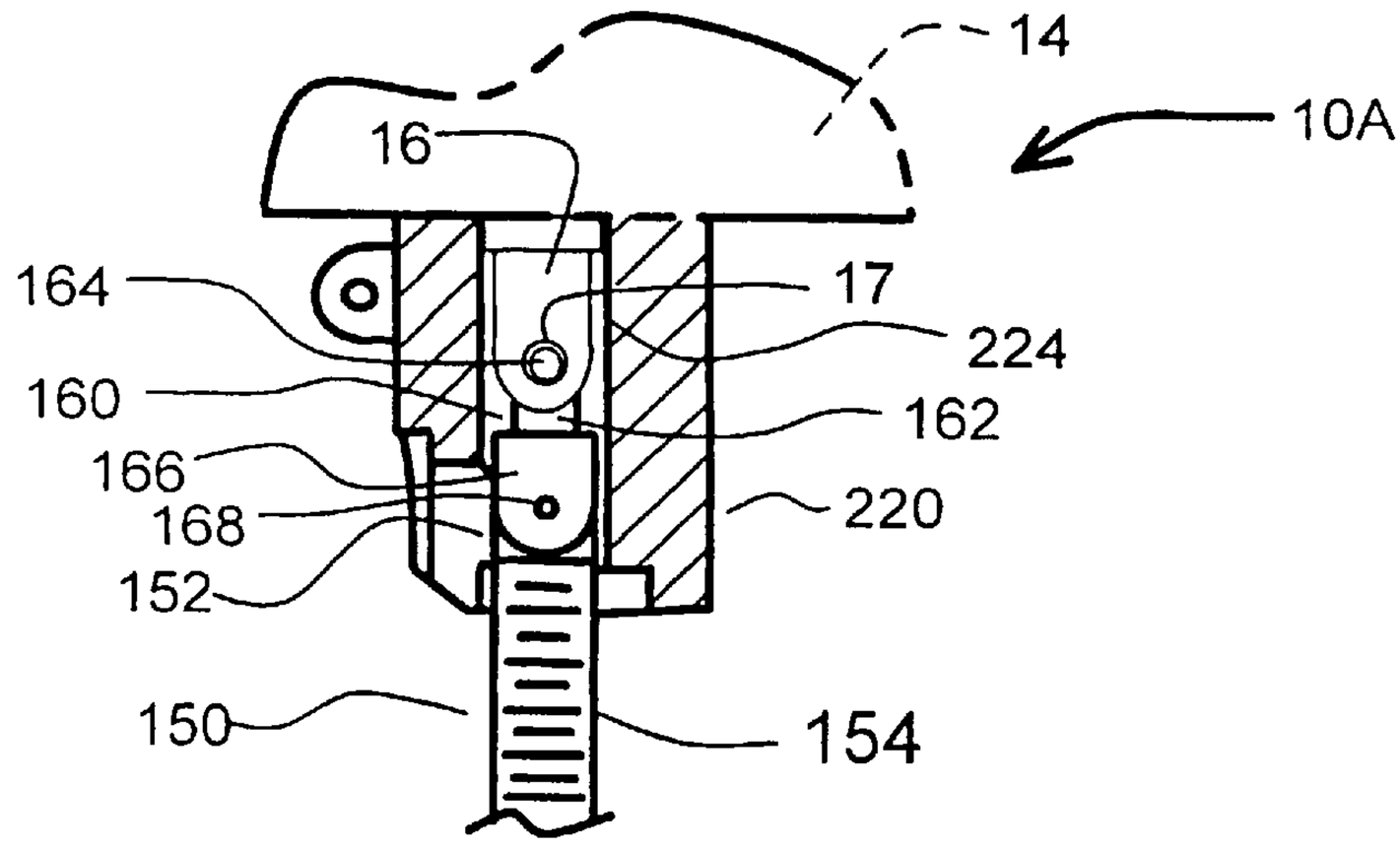


FIG.5


14
10A
16
164
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224
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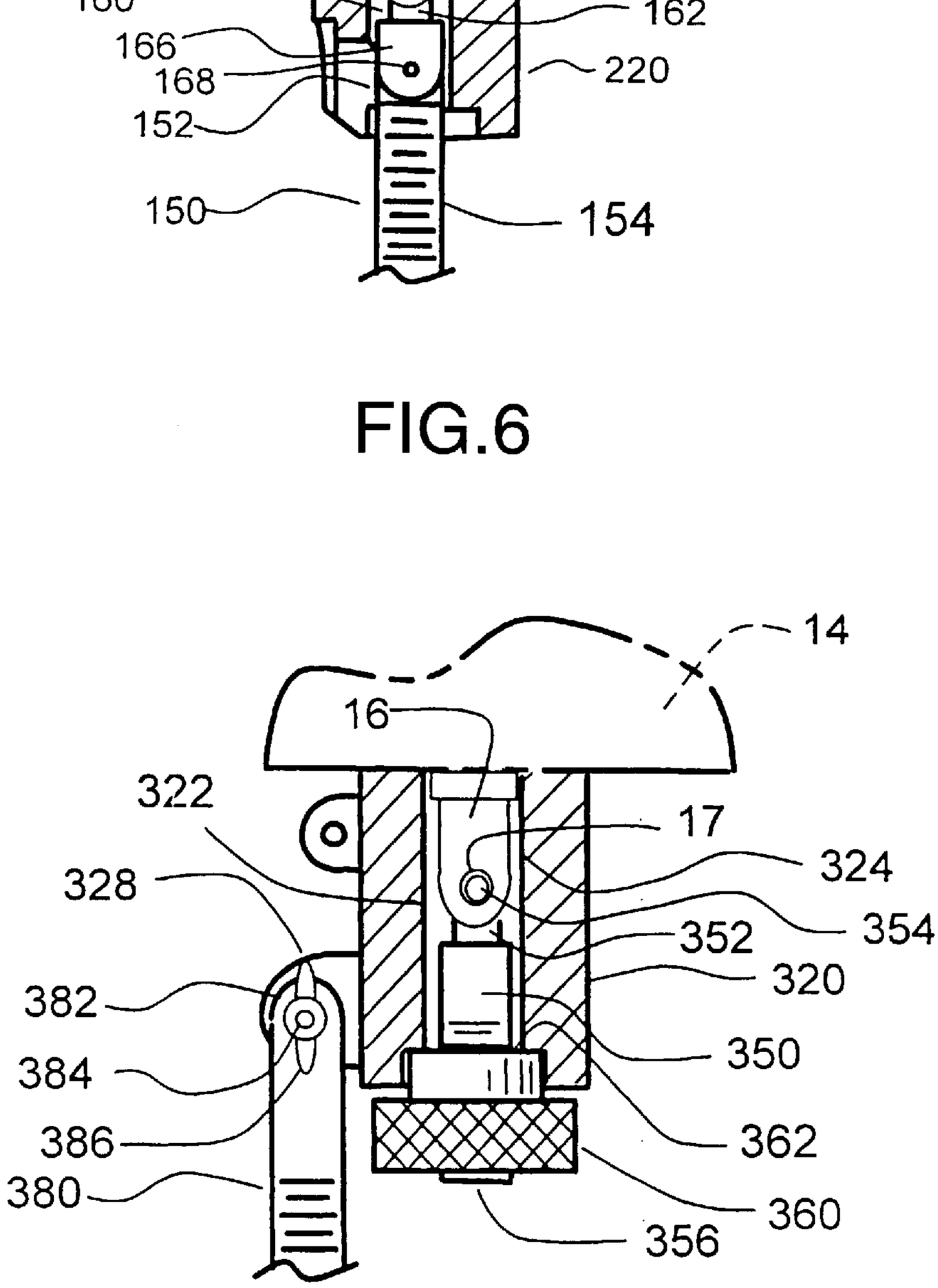
FIG.6


14
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322
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328
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380
356
10B

FIG.7

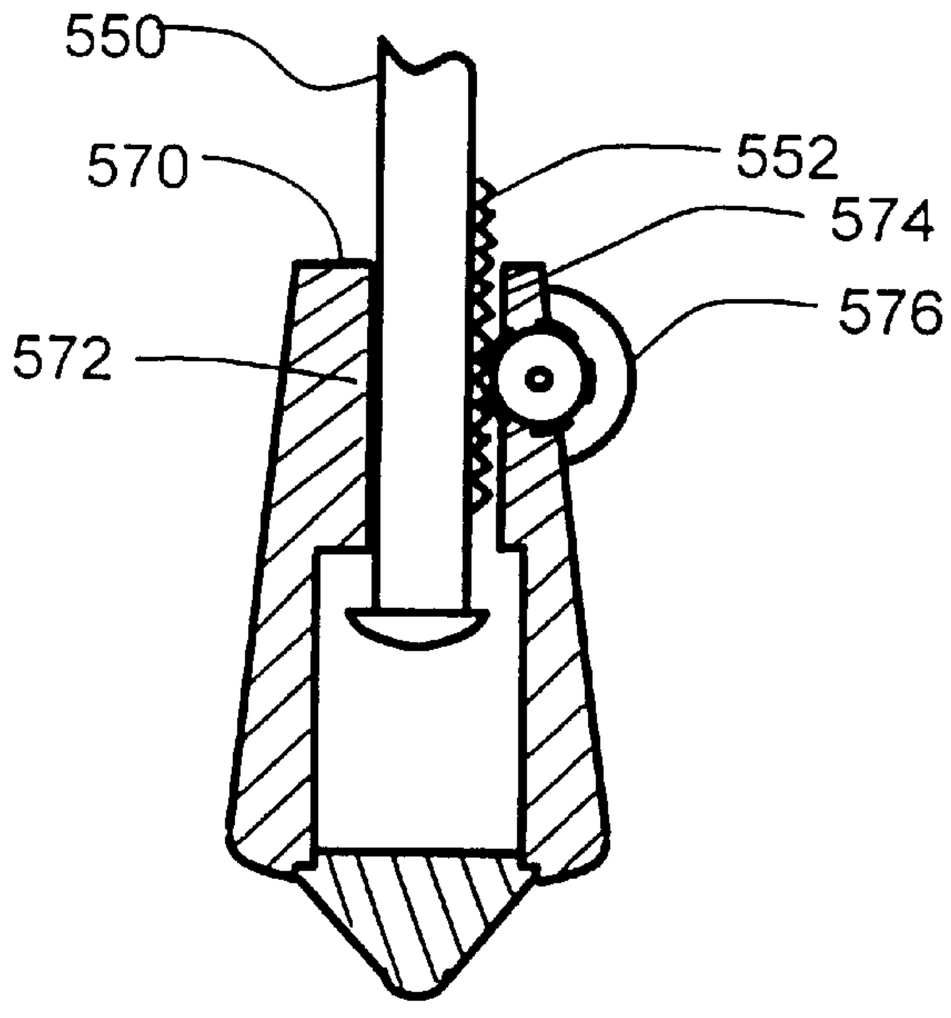

FIG.8

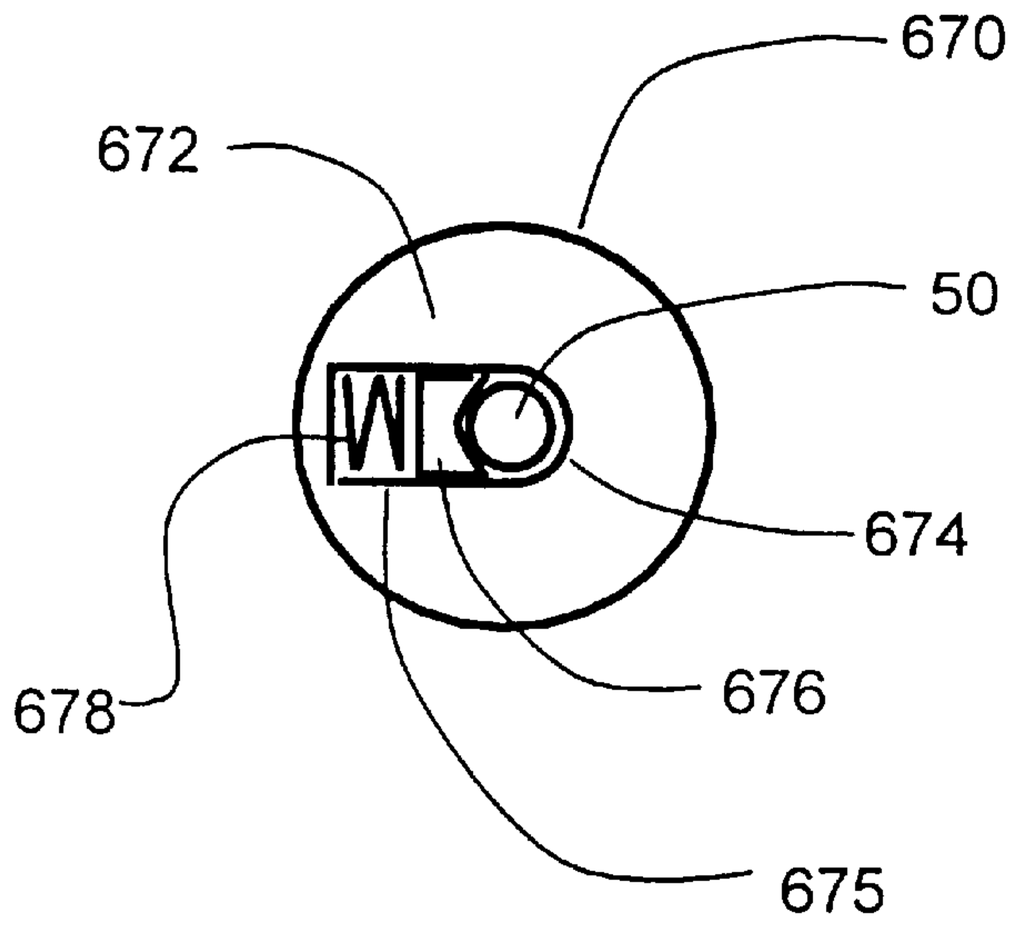

FIG.9

ADJUSTABLE FIRE ARM SUPPORT

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to firearm supports, and more particularly to an adjustable firearm support that attaches to a firearm stock and is manually operated to adjust firing elevation.

2. Description of the Prior Art

Fire arm and firearm supports of various designs have existed almost as long as firearms have existed. These supports have been used to provide a stable platform from which a mounted weapon may be fired with greater accuracy. One of these prior art supports, described in U.S. Pat. No. 5,345,706 issued to Brown, employs a clasp mechanism for latching to a firearm stock sling stud and a telescoping member to provide a highly portable, one leg firearm support for use by a firearm marksman in the standing position.

In order to shoot with great accuracy, a firearm marksman will shoot from the sitting position at a shooting bench or the prone position. When shooting from the sitting position at a shooting bench or the prone position, the firearm marksman, must precisely adjust the elevation of his firearm. When attempting to shoot from the sitting position at a shooting bench or the prone position with very great accuracy, a firearm marksman will often place a sand bag under the butt end of the firearm stock and manipulate that sand bag to obtain elevation. Sand bags, however are heavy and cumbersome and are an imprecise means of adjusting elevation. Further, marksman, in some situations, must carry their firearms and other equipment over significant distances. They need a compact device that can be easily attached to and carried with their firearm. What is needed then is a lightweight, compact and portable device that can be easily attached to a firearm and which can be used to precisely adjust elevation.

SUMMARY OF THE INVENTION

The adjustable firearm support of the present invention satisfies the aforementioned need by providing a very lightweight, compact and portable device which provides a means for precisely adjusting the elevation of a firearm.

The adjustable firearm support of the present invention works in combination with a firearm stock having a sling stud mounted to its underside adjacent to its butt end. The sling stud has a central hole for receiving hooks, clasps and the like. The adjustable firearm support includes four basic parts; namely, a support rod, a base member, a position sleeve, and a support leg. The support rod is externally threaded and has a clasp at one end for engaging the sling stud. The base member has a top cradle surface with sloped or curved sides that can conform to the surface of the firearm stock near the sling stud. The base member also has an axially symmetric lower surface and a central opening extending from the top cradle surface to the lower surface which allows it to fit over the support rod when the support rod is attached to the sling stud. The position sleeve has an axial bore which is threaded to accept the support rod and an axially symmetric upper surface shaped to rotate against the axially symmetric lower surface of the base member. The top end of the support leg is bored with a threaded bore for receiving the support rod and the bottom end of the support leg is fashioned for concentric rotation on a stable, horizontal surface.

The adjustable firearm support of the present invention is assembled as follows: The support leg is threaded on to the support rod. The position sleeve is then threaded onto the support rod. The base member is placed upon the support rod and then finally, the clasp is attached to the support rod. To use the adjustable firearm support, the clasp is attached to the sling stud near the butt end of the firearm stock. Then the position sleeve is tightened up against the base member. This pushes the base member firmly against the firearm stock to firmly mount the adjustable fire support to the firearm stock. Once the support leg is positioned on a stable, horizontal surface, it can be rotated about the support rod to precisely adjust the vertical position of the other parts of the adjustable firearm support and more importantly adjust the vertical position of the firearm stock to which they are attached.

The adjustable firearm support of the present invention also includes features that allow the support leg and support rod to be retracted up against the firearm stock for easy transport. These features include a pivot joint between the clasp and the remainder of the support rod and a slot in the lower end of the base member to provide clearance for the support rod as it rotates about the pivot joint into a retracted position. When in the retracted position, the position sleeve is tightened against the base member to lock the support rod, position sleeve and support leg into the retracted position. The base member has a second axial surface that receives the top surface of the position sleeve when, in the retracted position, it is tightened against the base member.

In addition to the above features for allowing the support rod, position sleeve and support leg to fold into a retracted position, a sling lug is also added to the base member. The base member sling lug is adapted to accept a sling strap end ring so that a sling strap can be attached to the firearm for easy transport.

Accordingly, the adjustable firearm support of the present invention attaches easily to a firearm and provides precise elevation adjustment. It is so compact that it goes almost unnoticed. Yet, when used with a sighting scope, a firearm marksman can aim and fire his firearm with extreme accuracy.

Other features and advantages of the present invention will be more readily apparent by reference to the following detailed description in connection with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention may be best understood by those having ordinary skill in the art by reference to the following detailed description when considered in conjunction with the accompanying drawings in which:

FIG. **1** is a side view of the adjustable firearm support of the present invention mounted to a firearm stock shown in reference.

FIG. **2** is an exploded front view of the adjustable firearm support of the present invention.

FIG. **3** is a section view taken from plane **3**—**3** of FIG. **2**.

FIG. **4** is a top view taken from plane **4**—**4** of FIG. **2**.

FIG. **5** is a section view taken form plane **5**—**5** of FIG. **4**.

FIG. **6** is a side view of a first alternative embodiment of the adjustable firearm support of the present invention.

FIG. **7** is a side view of a second alternative embodiment of the adjustable firearm support of the present invention.

FIG. **8** is a cross section view of an alternative embodiment of the support leg of the adjustable firearm support of the present invention.

FIG. **9** is a top view of an alternative embodiment of the support leg of the adjustable firearm support of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Throughout the following detailed description, the same reference numerals refer to the same elements in all figures.

FIG. **1** is a side view of the adjustable firearm support **10** of the present invention shown in relation to a sling **12** and a firearm stock **14** which includes a sling stud **16** having a sling stud hole **17**. As can be seen in FIG. **1**, the adjustable firearm support **10**, comprises a clasp **20**, a support rod **50**, a position sleeve **60**, a support leg **70** and a base member **120**.

FIG. **2**, an exploded view of adjustable firearm support **10** of the present invention, shows clasp **20**, support rod **50**, position sleeve **60**, support leg **70** and base member **120**. In FIG. **2**, clasp **20** is shown in relation to sling stud **16**. Clasp **20** includes a clasp body **22**, a stationary prong **24**, a clasp pin **26**, a slide pin **28**, an external knob **32**, a latch plate **34**, a clevis **36** and a clevis pin **40**. Stationary prong **24** projects upwardly from clasp body **22** and carries clasp pin **26**. Slide pin **28** slides within clasp body **22** and is spring biased by an internal spring (not shown). Latch plate **34** is fixed at one end to slide pin **28** and has a hole (not shown) at its other end for receiving clasp pin **26**. Knob **32** is attached at the other end of slide pin **28** and is used to manually adjust slide pin **28** and latch plate **34** which is attached to slide pin **28**. The internal spring which biases slide pin **28** urges slide pin **28** so that latch plate **34** engages clasp pin **26** and so that knob **32** is pushed away from clasp body **22**. Clasp pin **26** is adapted to engage sling stud hole **17** of sling stud **16** so that clasp **20** can be attached to sling stud **16**. Clevis **36** depends from clasp body **22** and includes two co-axial clevis pin holes **38** adapted for receiving clevis pin **40**. The components of clasp **20** should be fabricated from high strength steel capable of withstanding significant stresses.

As can be seen in FIG. **2**, support rod **50** includes a lug portion **52**, a threaded shaft **56** and a bolt head **58**. Lug portion **52** has a hole **53** for receiving clevis pin **40** of clasp **20** so that clasp **20** can be attached to support rod **50**. Threaded shaft **56** extends from lug portion **52** to bolt head **58**. Support rod **50** can be fabricated from steel or brass or any material suitable for holding threaded surfaces. Support rod **50** could be easily fabricated from a simple carriage type bolt by machining a lug such as lug **52** into the end opposite the bolt head.

As can also be seen in FIG. **2**, Position sleeve **60** includes a shoulder portion **63** and a knurled portion **65**. Shoulder portion **63** defines an axially symmetric upper surface for position sleeve **60**. Position sleeve **60** has an axial bore (not shown) which is threaded to receive the threaded shaft **56** of support rod **50**. Position sleeve **60** can be fabricated from steel or brass or any material suitable for holding knurled and threaded surfaces.

Support leg **70** is also shown in FIG. **2**. It includes a large handle body **72**, a top surface **73**, a threaded axial bore **74** and a rotation member **76**. The large handle body **72** is designed to be easily manipulated by an operator. Threaded axial bore **74** is in normal relation to top surface **73** and is adapted to receive threaded portion **56** of support rod **50**. Counter bore **75** extends from the bottom end of handle body **72** and meets threaded axial bore **74** near the center of handle body **72**. Rotation member **76** closes off counter bore **75** and is adapted to turn on a stable surface. Support leg **70** can be made from a hard plastic capable of accepting internal threads or may have a metal insert for providing threaded axial bore **74**. In the preferred embodiment, support rod **50** is threaded into support leg **70** before rotation member **76** is permanently fixed in place by an adhesive thereby creating a permanent assembly.

FIG. **9** is a top view of an alternative support leg **670** having a slotted bore **672**. The slotted bore **672** has a threaded semi-cylindrical wall **674** at one end and a bias means **675** comprising a smooth bearing member **676** and spring **678** at the other end. Support rod **50** is urged by bias means **675** against threaded semi-cylindrical wall **674**. When opposite manual pressure is applied to support leg **670**, support rod **50** is released from threaded semi-cylindrical wall **674** so that support leg **670** can be freely moved relative to support rod **50**. It should be readily apparent to the skilled reader that a spring biased insert could be disposed within a support leg having a smooth bore. The insert would have a slotted bore with one threaded wall. The insert could be manipulated by external manual pressure to release the threaded wall from a support rod so that the support leg could be easily translated relative to the support rod.

Base member **120** is shown in FIG. **2** and is shown in more detail in FIGS. **3**, **4** and **5**. FIG. **2** shows a front view of base member **120**. As can be seen in FIG. **2**, base member **120** has a cylindrical outer surface **122**, a side slot **128**, a clearance face **136**, side spot face surface **138**, a sling lug **139** and an upper cradle surface **140** and a lower surface **130**. FIG. **3** is a section view of base member **120** taken from plane **3**—**3** of FIG. **2**. FIG. **4** is a top view of base member **120** and FIG. **5** is a section view taken from plane **5**—**5** of FIG. **4**. Together, these views show that base member **120** has a central bore **124**, a clasp slot **126**, and a lower spot face surface **132**. Side spot face surface **138** is disposed in outer surface **122**, while lower spot face surface **132** is defined within lower surface **130**. As is best seen in FIG. **3**, side slot **128** communicates with side spot face surface **138** clearance face **136** and lower spot face surface **132** and is adapted to allow support rod **50** to swing up into a retracted, horizontal position as it pivots about clevis pin **40**. As is also shown in FIG. **3**, central bore **124** runs the length of base member **120** from cradle surface **140** to lower spot face surface **132** and is sized to accept support rod **50** and sling stud **16**. FIG. **5** shows that clasp slot **126** begins in cradle surface **140** and extends only part of the distance from cradle surface **140** to lower spot face surface **132** and is sized to allow clasp **20** to retract down into base member **120**. As can be seen in FIG. **3** and FIG. **4**, clasp slot **126** only extends across part of the width of base member **120**. As is shown in FIG. **5**, lower spot face surface **132** provides a recess for receiving shoulder portion **63** of position sleeve **60**. Lower spot face surface **132** and side spot face surface **138** can define any axially symmetric surface definition as long as that definition corresponds to the axially symmetric upper surface defined by shoulder portion **63** of position sleeve **60**. Sling lug **139** can either be recessed or projecting as shown in FIG. **3** and is adapted to receive a second clasp substantially identical to clasp **20** so that a sling strap can be attached to base member **120**.

The skilled reader should easily appreciate that base member **120** could have a simple, flat lower surface while position sleeve **60** could have a corresponding, simple, flat upper surface. Such simple flat surfaces would fall within the general category of axially symmetric surfaces from which compatible surfaces could be selected. Likewise, base member **120** could also have a simple flat side surface disposed about side slot **128**. Still further, while clearance face **136** is helpful to the operation of firearm support **10**, it could be omitted because it is not necessary to the function of firearm support **10**. It should also be readily apparent to

the skilled reader that sling lug **139** could be moved to locations on outer surface **122** of base member **120** other than the location shown in FIGS. **2**, **3**, and **4**.

The adjustable firearm support **10** can be assembled as follows: First, support rod **50** is threaded into support leg **70** so that bolt head **58** of support rod **50** is closely adjacent to top end of counter bore **75** of support leg **70**. Second, rotation member **76** is glued into the bottom end of support leg **70**. Third, position sleeve **60** is threaded down onto support rod **50** until it is closely adjacent to top surface **73** of support leg **70**. Fourth, base member **120** is placed down upon support rod **50** until lug portion **52** of support rod **50** emerges above cradle surface **140** of base member **120**. Fifth and finally, clasp **20** is attached to clevis portion **53** of support rod **50** by inserting clevis pin **40** through co-axial clevis pin holes **38** of clasp **20** and hole **53** of support rod **50**.

The assembled adjustable firearm support **10** can be used with a firearm having firearm stock **14** and a sling stud **16** in the following manner: Clasp **20** is attached to sling stud **16** by disengaging latch plate **34** from clasp pin **26**, inserting clasp pin **26** into sling stud hole **17** and then re-engaging latch plate **34** with clasp pin **26**. Position sleeve **60** is rotated about support rod **50** until it pushes up against spot face surface **132** of base member **120** so that cradle surface **140** of base member **120** firmly engages firearm stock **14**. Rotation member **76** of support leg **70** is then placed on a stable surface and support leg **70** is then rotated about support rod **50** to finely adjust the vertical position of firearm stock **14**.

Shown in FIG. **8** is an alternate means for adjusting the vertical position of a support rod **550** in relation to a support leg **570**. FIG. **7** shows a support rod **550** that is smooth and carries a rack **552**. FIG. **7** also shows a leg **570** having a smooth bore **572** for receiving support rod **550**, a slot **574** for clearing rack **552** and a rotatably mounted gear axle and knob assembly **576** adapted for engaging rack **552** thereby providing an alternative vertical adjustment means for adjusting the vertical position of support leg **570** in relation to support rod **550**. Support rod **550** of FIG. **7** still includes a threaded upper portion (not shown) for receiving a position sleeve such as the position sleeve **60** shown in FIG. **2**. The skilled reader will readily appreciate that any one of several different vertical adjustment means could be employed to accomplish the vertical adjustment of a support leg relative to a support rod and the remainder a firearm support.

The adjustable firearm support **10** of the present invention can be placed in a retracted position by loosening position sleeve **60** so that shoulder portion **63** of position sleeve **60** is disengaged from lower spot face **132**. Support rod **50** together with position sleeve **60** and support leg **70** can be rotated about clevis pin **40** and through side slot **128** of base member **120** while shoulder portion **63** of position sleeve **60** just misses clearance face **136** of base member **120**. After the support rod **50**, position sleeve **60** and support leg **70** have been thus rotated from a vertical position to a horizontal position, position sleeve **60** can be tightened until shoulder portion **63** of position sleeve **60** firmly engages side spot face surface **138** of base member **120** thereby locking support rod **50**, position sleeve **60** and support leg **70** into a folded position.

As is evident from the above description, clasp **20**, support rod **50**, position sleeve **60** and base member **120** cooperate with sling stud **16** to provide a clamping means for clamping the adjustable firearm support **10** to firearm stock **14**. It will be evident to those skilled in the art that this preferred embodiment as well as other embodiments described herein could employ other means of clamping an adjustable firearm support to a firearm stock. Such other means could include a flexible strap that can be tightened to pull a base member or base member similar to base member **120** tightly against a firearm stock such as firearm stock **14**. Such a strap could also include a leveraged buckle for tightly securing a base member or base member such as base member **120** to a firearm stock such as firearm stock **14**. Such other means could include a threaded tap recessed into stock **14** in combination with a threaded bolt member for securing a base member similar to base member **120** to stock **14**. Numerous other mechanical means could be imagined for securing a base member or base member such as base member **120** to stock **14**. Once a base member such as base member **120** is firmly fixed to a firearm stock, a support leg in combination with a support rod attached to such a base member can be used to provide a means for vertical adjustment.

As shown in FIG. **6**, a second embodiment of the adjustable firearm support **10**A is shown in relation to firearm stock **14** and sling stud **16** having sling stud hole **17**. Adjustable firearm support **10**A includes a support rod **150**, a hook member **160** and a modified base member **220**. Support rod **150** includes an upper lug portion **152** a lower threaded portion **154**. Hook member **160** includes a hook **162** having a horizontal pin **164** for engaging sling stud hole **17**. Hook member **160** also has a clevis **166** for attaching to upper lug portion **152** of support rod **150**. Clevis **166** of hook member **160** is pinned by joint pin **168** to a corresponding upper lug portion **152** of support rod **150**. Once lower lug portion **152** of support rod **150** is pinned to clevis **166** of hook member **160**, support rod **150** can rotate around the joint between clevis **166** and lug portion **152**. The remainder of support rod **150** is substantially identical to support rod **50** described above. Modified base member **220** is identical to base member **120** of FIG. **2**, except that it does not have a feature corresponding to clasp slot **126** of base member **120**. Central bore **224** of base member **220** is also adapted to closely fit around support rod **150**. A position sleeve (not shown) substantially identical to position sleeve **60** of FIG. **2** is employed as described above to bias base member **220** against the firearm stock. As described above, support rod **150** receives a support leg (not shown) which is substantially identical to support leg **70** shown in FIG. **2**. In this embodiment, support rod **150** would have to made from a high strength material capable of withstanding significant stresses.

Illustrated in FIG. **7**, is a third alternative embodiment of adjustable firearm support **10**B of the present invention shown in relation to adjustable firearm stock **14** and sling stud **16** having sling stud hole **17**. Adjustable adjustable firearm support **10**B includes a base member **320**, a first support rod **350**, a position sleeve **360** and a second support rod **380**. In this embodiment, first support rod **350** includes an upper portion **352** and a lower portion **356**. Upper portion **352** of first support rod **350** has a stationary hook **354** adapted for engaging sling stud **16** and lower portion **356** of first support rod **350** is threaded to receive internally threaded position sleeve **360**. Base member **320** has a lower spot face surface **324** for receiving position sleeve **360**. Base member **320** also has a central bore **322** for receiving sling stud **16** and support rod **350**. Position sleeve **360** threads onto first support rod **350** and has an axially symmetric upper surface **362** adapted for smoothly engaging lower spot face surface **324** of base member **320**. Base member **320** also has a means for attaching second support rod **380**. Second support rod **380** can be rigidly fixed to base member

320 or can be pivotably mounted to base member 320. FIG. 4 shows second support rod 380 having an upper clevis portion 382 that engages a lug 328 fixed to base member 320. A bolt 384 and a wing nut 386 clamp upper clevis portion 382 of second support rod 380 to lug 328 of base member 320. With the addition of a locking means such as corresponding serrated surfaces (not shown) or a lock washer (not shown), the joint between upper clevis portion 382 of second support rod 380 and lug 328 of base member 320 can be locked in either a vertical or retracted horizontal position. As with the above described embodiments, second support rod 380 receives a support leg (not shown) which is substantially identical to support leg 70 shown in FIG. 2. and that support leg can be rotated about second support rod 380 to provide fine vertical adjustment.

The skilled reader, in view of this specification may envision numerous modifications and variations of the above disclosed preferred embodiment.

Accordingly, the reader should understand that these modifications and variations, and the equivalents thereof, are within the spirit and scope of this invention as defined by this specification and by the following claims wherein, I claim:

1. In combination with a firearm including a firearm stock, the firearm stock having a bottom mounted sling stud, an adjustable firearm support for adjusting the vertical position of the firearm stock in relation to a stable horizontal surface comprising;

a support rod, a position sleeve, a base member, a support leg and a vertical adjustment means,

the support rod having an externally threaded surface, the support rod also having a clasp at its upper end adapted for pivotably engaging the sling stud,

the base member having an upper cradle surface adapted to fit up against the bottom surface of the firearm stock, a lower surface, a side wall and a central opening extending from the upper cradle surface to the surface for receiving the support rod,

the position sleeve having a threaded central bore for receiving the externally threaded surface of the support rod, the position sleeve also having an upper surface adapted to fit up against lower surface of the base member,

the support leg having at its upper end, an opening ADAPTED for receiving AND HOLDING the support rod, the support leg also having a lower end adapted to stand on the stable, horizontal surface,

the adjustment means for adjusting the position of the support rod in relation to the support leg,

the support rod attached to the sling stud, the base member receiving the support rod and fitted up against the firearm stock, the position sleeve threaded about the support rod so that its upper surface engages the lower surface of the base member, the position sleeve tightened up against the base member thereby clamping the base member and the support rod to the firearm stock, the support leg receiving the support rod, the lower end of the support leg placed upon the stable, horizontal surface, the adjustment means operated to adjust the position of the support leg in relation to the support rod thereby precisely adjusting the vertical position of the firearm stock in relation to the stable, horizontal surface.

2. The adjustable firearm support of claim 1, wherein

the vertical adjustment means comprises a rack disposed on the support rod and a gear rotatably mounted on the support leg, whereby the gear on the support leg engages the rack disposed on the support rod so that by rotating the gear the position of the support rod in relation to the support rod can be finely adjusted.

3. The adjustable firearm support of claim 1, wherein

the vertical adjustment means comprises a continuous thread disposed on the outer surface of the support rod and a corresponding continuous thread disposed in the opening in the upper end of the support leg, whereby the support leg can be rotated about the support rod to finely adjust the position of the support leg in relation to the support rod.

4. In combination with a firearm including a firearm stock, the firearm stock having a bottom mounted sling stud, an adjustable firearm support for adjusting the vertical position of the firearm stock in relation to a stable horizontal surface comprising;

a support rod, a position sleeve, a base member, a support leg and a vertical adjustment means,

the support rod having an externally threaded surface, the support rod also having a clasp at its upper end adapted for pivotably engaging the sling stud,

the base member having an upper cradle surface adapted to fit up against the bottom surface of the firearm stock, a lower surface, a side wall, a central opening extending from the upper cradle surface to the surface for receiving the support rod and a side slot extending from the side wall of the base member to the central opening of the base member and down to the lower surface of the base member,

the position sleeve having a threaded central bore for receiving the externally threaded surface of the support rod, the position sleeve also having an upper surface adapted to fit up against lower surface of the base member,

the support leg having at its upper end an opening ADAPTED for receiving AND HOLDING the support rod, the support leg also having a lower end adapted to stand on the stable, horizontal surface,

the adjustment means for adjusting the position of the support rod in relation to the support leg,

the support rod attached to the sling stud, the base member receiving the support rod and fitted up against the firearm stock, the position sleeve threaded about the support rod so that its upper surface engages the lower surface of the base member, the position sleeve tightened up against the base member thereby clamping the base member and the support rod to the firearm stock, the support leg receiving the support rod, the lower end of the support leg placed upon the stable, horizontal surface, the adjustment means operated to adjust the position of the support leg in relation to the support rod thereby precisely adjusting the vertical position of the firearm stock in relation to the stable, horizontal surface,

the position sleeve threaded about the support rod so that its upper surface disengages the lower surface of the base member, the support rod pivoted in relation to the sling stud, the support rod, position sleeve and support leg rotated up into a retracted position as the support rod swings through the side slot of the base member, the position sleeve tightened to engage the side wall of the base member, whereby the support rod, position sleeve and support leg are secured in a folded, retracted position.

5. The adjustable firearm support of claim 4, wherein the vertical adjustment means comprises a rack disposed on the support rod and a gear rotatably mounted on the support leg, whereby the gear on the support leg engages the rack disposed on the support rod so that by rotating the gear the position of the support rod in relation to the support rod can be finely adjusted.

6. The adjustable firearm support of claim 4, wherein the vertical adjustment means comprises a continuous thread disposed on the outer surface of the support rod and a corresponding continuous thread disposed in the opening in the upper end of the support leg, whereby the support leg can be rotated about the support rod to finely adjust the position of the support leg in relation to the support rod.

7. The adjustable firearm support of claim 4, wherein the clasp at the upper end of the support rod is pivotably mounted to the support rod to provide a second pivot joint whereby the support rod rotates about the second pivot joint between the clasp and the support rod when the support rod, position sleeve and support leg are rotated up into a retracted position.

8. The adjustable firearm support of claim 4, wherein the upper surface of the position sleeve, the lower surface of the base member and the side wall of the base member around the side slot are all substantially flat so that the position sleeve may engage the lower surface of the base member and the side wall of the base member around the side slot more easily.

9. The adjustable firearm support of claim 4, wherein the upper surface of the position sleeve, the lower surface of the base member and the side wall of the base member around the side slot are all axially symmetric so that the position sleeve may engage the lower surface of the base member and the side wall of the base member around the side slot more easily.

10. The adjustable firearm support of claim 4, wherein the vertical adjustment means comprises a continuous thread disposed on the outer surface of the support rod and a corresponding continuous thread disposed in the opening in the upper end of the support leg, whereby the support leg can be rotated about the support rod to finely adjust the position of the support leg in relation to the support rod,

wherein the support leg further comprises a counter bore and a rotation member, the counter bore of substantially larger diameter of the threaded bore of said support leg, the counter bore in co-axial relation to the threaded bore, the counter bore extending from the bottom end of the support leg, the rotation member having a lower end adapted for axial rotation on a stable surface, the rotation member adapted to fit into the lower end of the counter bore,

and wherein the support rod further comprises a bolt head disposed at its lower end opposite the removable clasp at its upper end, the support rod threaded into the support leg, the bolt head of the support rod enclosed within a cavity defined by counter bore and the rotation member, whereby the range of motion of the support rod in relation to the support leg is limited to the range of motion of the bolt head within the cavity.

11. The adjustable firearm support of claim 4, wherein, the vertical adjustment means comprises a continuous thread disposed on the outer surface of the support rod and a corresponding continuous thread disposed in the opening in the upper end of the support leg, whereby the support leg can be rotated about the support rod to finely adjust the position of the support leg in relation to the support rod,

and wherein the support leg threaded bore further comprises at least one slotted portion having a substantially smooth walls and a threaded portion at one end thereof, the support leg also having spring biasing means for urging the support rod into contact with the threaded portion, the spring biasing means also adapted to yield to a manual pressure, the spring biasing means opposed by the manual pressure, the support rod translated relative to the support leg until it disengages the threaded wall whereby the support leg may be moved freely in relation to the support rod for rapid vertical adjustment.

12. An adjustable firearm support for a firearm having a sling stud with a central bore, the firearm support comprising;

a first support rod, a second support rod, a position sleeve, a base member, a support leg and a vertical adjustment means,

the first support rod having an externally threaded surface, the first support rod also having a clasp at its upper end adapted for pivotably engaging the sling stud,

the second support rod also having an externally threaded surface, the second support rod adapted to attach to the base member,

the base member having an upper cradle surface adapted to fit up against the bottom surface of the firearm stock, a lower surface, a side wall and a central opening extending from the upper cradle surface to the surface for receiving the support, the base member also adapted to engage the second support rod,

the position sleeve having a threaded central bore for receiving the externally threaded surface of the first support rod, the position sleeve also having an upper surface adapted to fit up against lower surface of the base member,

the support leg having at its upper end an opening for receiving the second support rod, the support leg also having a lower end adapted to stand on the stable, horizontal surface,

the adjustment means for adjusting the position of the second support rod in relation to the support leg,

the first support rod attached to the sling stud, the base member receiving the first support rod and fitted up against the firearm stock, the position sleeve threaded about the first support rod so that its upper surface engages the lower surface of the base member, the position sleeve tightened up against the base member thereby clamping the base member and the support rod to the firearm stock, the second support rod attached to the base member, the support leg receiving the second support rod, the lower end of the support leg placed upon the stable, horizontal surface, the adjustment means operated to adjust the position of the support leg in relation to the second support rod thereby precisely adjusting the vertical position of the firearm stock in relation to the stable, horizontal surface.

13. The adjustable firearm support of claim 12, wherein the vertical adjustment means comprises a rack disposed on the second support rod and a gear rotatably mounted on the support leg, whereby the gear on the support leg engages the rack disposed on the second support rod so that by rotating the gear the position of the support rod in relation to the support rod can be finely adjusted.

14. The adjustable firearm support of claim 12, wherein the vertical adjustment means comprises a continuous thread disposed on the outer surface of the second support rod and a corresponding continuous thread disposed in the opening in the upper end of the support leg, whereby the support leg can be rotated about the second support rod to finely adjust the position of the support leg in relation to the second support rod.

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